

Amendments to the Figures

The Office Action maintains the rejection of Figure 24 because the applicants allegedly failed to file an amended replacement drawing sheet showing all of the prior figures on the sheet. As explained during the Interview and in the previous response, no marked-up replacement drawing sheet is required unless necessary to understand the amendment, and that did not appear to be the case here.

Original Figure 24 was deleted. Original Figure 25 was renumbered as new Figure 24. Original Figure 26 was renumbered as new Figure 25. Replacement drawing sheets and sheets showing changes made were submitted for Figures 25 and 26, which are now Figures 24 and 25.

To eliminate any possible confusion, applicants submit herewith a marked-up replacement drawing sheet showing that original Figure 24 has been deleted. No replacement sheet with the changes made can be submitted for original Figure 24, because the sheet would be blank.

Entry of the deletion of original Figure 24 and the amendment of Figures 25 and 26 to renumber them as Figures 24 and 25 are respectfully requested. If there is any further confusion, the Examiner is asked to please call the undersigned so that it can be resolved.

Interview Summary

The Examiner is thanked for the courtesies extended during a telephonic interview conducted on March 6, 2008, and including the Examiner and the Examiner's supervisor. During the Interview, the applicant and the Examiners discussed the examination of the "consisting essentially of" limitation. The applicant submitted that the essential properties of the "consisting essentially of" limitation was explained by the requirement (clear throughout the specification) that the resulting amino acid be a truncated version of ORF2.

Applicant also disagreed with the characterization of the Pisabarro reference in the Office Action. Applicant discussed that the polynucleotide of Pisabarro encodes a protein that includes a protein that is close to that encoded by the instant application. However, applicants disagree with the characterization of the Interview Summary stating that SEQ ID NO: 19 is comprised within the Pisabarro protein; as pointed out during the interview, there are at least two point mutations within SEQ ID NO: 19 that are not shown in Pisabarro.

The Examiners and the applicant also discussed the amended drawings.

Remarks

I. Status

Following entry of the amendments included herein, claims 19, 20, 22-24, and 33-37 are pending, with claims 1-18, 21, and 25-32 cancelled, claims 19 and 24 amended herein, and claims 33-37 added herein. Support for the amendments to claims 19 and 24 and the addition of claims 33-37 is found at least in the first paragraph beginning on page 9 of the application as filed. Applicants note that there is no *in haec verba* requirement for amendments to the claims. Applicants further note that they are fully entitled to claim less than they originally claimed, and that amendment of the claims to "consisting essentially of" from "comprising" is fully supported by the specification and claims as filed.

II. Objections

The Office Action objects to the specification because no amended replacement drawing sheet showing the changes to Figure 24 was filed. Although applicants maintain that cancellation of Figure 24 in its entirety explains the changes to Figure 24 without the need for an amended drawing sheet showing changes made. A sheet is enclosed. The objection is moot. Withdrawal of the objection is requested.

III. Claim Rejections - 35 U.S.C. § 103

Claims 19-20, 22, and 24 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Pisabarro, *et al.*, in view of Labarre, *et al.* and Hirano, *et al.* The Office Action cites Pisabarro, *et al.*, for the proposition that "it is likely that ORF2 is also translated in *Corynebacteria* in lysine biosynthesis." Labarre, *et al.* is cited for a "reliable and general method" for inserting genes into a chromosome of *Corynebacterium*. Hirano, *et al.* is cited for

noting that "L-lysine productivity" can be "obtained by the means of amplification of genes for the L-lysine biosynthesis."

The cited publications do not make out a *prima facie* case of obviousness. The cited references, alone or in combination, do not teach or suggest all of the limitations of the claims.

Pisabarro is quoted out of context in the Office Action. The Office Action states, "Pisabarro et al. suggest 'is is likely that ORF2 is also translated in corynebacteria' in lysine biosynthesis." Pisabarro does not state that ORF2 is likely translated in lysine biosynthesis. Pisabarro merely states that it is likely that ORF2 is translated. There is no definitive statement regarding the nature of any translation; any assumptions that are made about the translation are merely made in hindsight based on applicants' specification.

Indeed, if Pisabarro had believed that ORF2 were translated in lysine biosynthesis, the cited article would have been an ideal place to discuss it. Pisabarro did not. The Office Action cites Figure 1 as showing the involvement of ORF2, but ORF2 is not mentioned in that figure. There is no support for the contentions of the Official Action.

The Office Action asserts that the "consisting essentially of" language of the claims includes the ORF2 of Pisabarro. This ignores the primary "basic and novel" characteristic of the claim. As stated in the specification, SEQ ID NO: 19 is a truncated ORF2. Pisabarro purports to show a complete ORF2. One skilled in the art would recognize that, by definition, a truncated protein is not and cannot be the complete protein.

Neither the scope and contents of the prior art, nor the differences between the prior art and the claims in issue align to allow creation of a *prima facie* case of obviousness. As Applicants previously noted, the mere listing of ORF2 in Pisabarro, combined with the blanket statement that it is "likely" that the open reading frame is "also translated" is not a suggestion that

the translation is involved in amino acid production, or that increasing translation of the open reading frame would increase amino acid production. There is nothing to lead one of skill in the art that a truncated ORF2 would have the beneficial properties of the claimed invention.

The claimed subject matter is different from anything in the cited art. The amino acid sequence of SEQ ID NO: 19 is a truncation of the full amino acid that would be not predicted from the nucleotide sequence of ORF2; furthermore, there are at least two difference in the resulting amino acid sequences. For at least the reasons given, no *prima facie* case of obviousness has been created. Applicants request that the rejection be removed, and that the claims be reconsidered and allowed.

CONCLUSION

Applicants believe that a full and complete response to the outstanding office action has been made herein. The Examiner is invited to telephone the undersigned at the number provided below if further discussion of the claims could result in allowance. Consideration and early allowance of all of the pending claims is respectfully requested.

Respectfully submitted,

/Duane A. Stewart III/

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SHEET SHOWING CHANGES TO FIGURE 24

~~Truncated ORE2 amino acid sequence (SEQ ID NO. 19)~~

GTGGCCGAACAAGTTAAATTGAGCGTGGAGTTGATAGCGTGCAGTTCTTTTACTCCACCC
 1+.....+.....+.....+.....+.....+.....+ 60
 M A E Q V K L S V E L I A C S S F T P P
 GCTGATGTTGAGTGGTCAACTGATGTTGAGGGCGCGGAAGCACTCGTCGAGTTTGC GGGT
 61+.....+.....+.....+.....+.....+.....+ 120
 A D V E W S T D V E G A E A L V E F A G
 CGTGCCTGCTACGAACTTTTGATAAGCCGAACCCTCGAACTGCTTCCAATGCTGCGTAT
 121+.....+.....+.....+.....+.....+.....+ 180
 R A C Y E T F D K P N P R T A S N A A Y
 CTGCGCCACATCATGGAAGTGGGGCACACTGCTTTGCTTGAGCATGCCAATGCCAAGATG
 181+.....+.....+.....+.....+.....+.....+ 240
 L R H I M E V G H T A L L E H A N A T M
 TATATCCGAGGCATTTCTCGGTCCGCGACCCATGAATTGGTCCGACACCGCCATTTTCC
 241+.....+.....+.....+.....+.....+.....+ 300
 Y I R G I S R S A T H E L V R H R H F S
 TTCTCTCAACTGTCTCAGCGTTTCGTGCACAGCGGAGAATCGGAAGTAGTGGTGCCCACT
 301+.....+.....+.....+.....+.....+.....+ 360
 F S Q L S Q R F V H S G E S E V V V P T
 CTCAT ...
 361
 L (I)

~~FIG. 24~~